37230 SERVICE DATE – SEPTEMBER 20, 2006

EB This decision will be printed in the bound volumes of the STB printed reports at a later date.

SURFACE TRANSPORTATION BOARD

STB Ex Parte No. 558 (Sub-No. 9)

RAILROAD COST OF CAPITAL — 2005

Decided: September 15, 2006

Upon review of the evidence tendered in this proceeding, the Board finds that in 2005, the railroad industry had a composite after-tax cost of capital of 12.2%, based on: (1) a current cost of debt of 5.36%; (2) a current cost of common equity capital of 15.18%; and (3) a capital structure mix of 30.41% debt and 69.59% common equity. The procedure for determining the cost of capital, as developed and modified in prior determinations, is maintained. Based upon Western Coal Traffic League (WCTL) reply comments, we will issue a separate advance notice of proposed rulemaking to explore our methodology for computing the cost of capital and whether that method should be replaced with other established techniques.

BY THE BOARD:

One of our regulatory responsibilities is to determine annually the railroad industry's cost of capital.[1] This determination is one component used in evaluating the adequacy of individual railroads' revenues each year under the procedures and standards mandated by Congress in the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act) and promulgated in Standards for Railroad Revenue Adequacy, 364 I.C.C. 803 (1981), modified, 3 I.C.C.2d 261 (1986), aff'd sub nom. Consolidated Rail Corp. v. United States, 855 F.2d 78 (3d Cir. 1988). The cost-of-capital finding may also be used in other regulatory proceedings, including, but not necessarily limited to, those involving the prescription of maximum reasonable rate levels, the proposed abandonment of rail lines, and the setting of compensation for disputed trackage rights fees. The most recent determination of the railroad industry's cost of capital was for the year 2004, in Railroad Cost of Capital - 2004, STB Ex Parte No. 558 (Sub-No. 8) (STB served June 30, 2004).

[1] The railroad cost of capital determined here is an aggregate measure. It is not intended to measure the desirability of any individual capital investment project.

The instant proceeding was instituted in Railroad Cost of Capital - 2005, STB Ex Parte No. 558 (Sub-No. 9) (STB served Dec. 20, 2005), to update the railroad industry's cost of capital for the year 2005. We have received comments from the Association of American Railroads (AAR) and reply comments from the Western Coal Traffic League (WCTL). AAR's submission contains the information that is used in making the annual cost-of-capital determination under the approach followed in previous cost-of-capital decisions. WCTL's reply comments accept AAR's calculations as to the railroad industry's capital structure and its cost of debt, two of the components of the cost-of-capital determination. However, WCTL challenges the appropriateness of the techniques and methodology employed by the Board in determining the cost of equity (COE). WCTL suggests replacing the Discounted Cash Flow (DCF) methodology used in previous cost-of-capital determinations with a "Capital Asset Pricing Model" (CAPM) methodology. WCTL has submitted a cost-of-capital calculation using the CAPM to determine COE.

In this decision, we publish our calculation of the composite after-tax cost of capital for the railroad industry for 2005 using our traditional DCF methodology for determining COE.

Consistent with previous cost-of-capital proceedings, AAR determined the cost-of-capital rate for a "composite railroad" based on the criteria developed in Railroad Cost of Capital - 1984, 1 I.C.C.2d 989 (1985).[2] The following railroad holding companies met these criteria: Burlington Northern Santa Fe Corporation (BNSF), CSX Corporation (CSX), Norfolk Southern Corporation (NSC), and Union Pacific Corporation (UPC).[3]

As discussed below, we have examined the procedures used by AAR to determine for 2005: (1) the railroad industry's current cost of debt capital; (2) its cost of common equity capital; (3) its cost of preferred equity capital;[4] (4) its capital structure mix; and (5) the composite after-tax railroad industry cost of capital. Based on that information, we determine that the 2005 railroad cost of capital was 12.2%.

[2] The composite railroad includes those Class I carriers that: (1) are listed on either the New York or American Stock Exchange; (2) paid dividends throughout the year; (3) had rail assets greater than 50% of its total assets; and (4) had a debt rating of at least BBB (Standard & Poor's) and Baa (Moody's).

[3] These are the same companies used in our 2004 cost-of-capital decision.

[4] There was no preferred stock outstanding for 2005.

DEBT CAPITAL

AAR developed its 2005 current cost of debt using bond price data from Standard & Poor's Corporation *Bond Guide* and a Standard & Poor's database for those bonds not traded. AAR's cost-of-debt figure is based on the market value yields of the major forms of long-term debt instruments for the sample railroad holding companies listed above. These debt instruments include: (1) bonds, notes, and debentures (bonds); (2) equipment trust certificates (ETCs); and (3) conditional sales agreements (CSAs). The yields of these debt instruments are weighted based on their market values.

Cost of Bonds, Notes, and Debentures (Bonds)

AAR used data contained in Standard & Poor's *Bond Guide* for the current cost of bonds, based on monthly prices and yields during 2005, for all issues (a total of 63) that were publicly traded during the year. To determine the current (2005) market value of bonds, AAR used these traded bonds and 59 additional bonds that were outstanding but not traded during 2005. Continuing the procedure in effect since 1988, AAR based the market value on monthly prices for all traded bonds and the face or par value ($1,000) for all bonds not traded during the year. AAR computed the total market value of all outstanding bonds to be $23.12 billion ($17.57 billion traded, and $5.55 billion non-traded). Based on the yields for the traded bonds, AAR calculated the weighted average 2005 yield for all bonds to be 5.19%. We have examined AAR's bond price and yield data and have determined that AAR's computations are correct. Our calculations and data for all bonds are shown in **Tables 1 and 2** of the Appendix.

Cost of Equipment Trust Certificates (ETCs)

ETCs are not actively traded on secondary markets. Therefore, their costs must be estimated by comparing them to the yields of other debt securities that are actively traded. Following the practice in previous cost-of-capital proceedings, AAR used government securities with maturities similar to these ETCs as surrogates for determining yields. After determining the 2005 yields for these government securities, AAR added basis points[5] to these yields to compensate for the additional risks associated with the ETCs.

No new ETCs were issued during 2005. There were 34 ETCs issued prior to 2005 that were outstanding during the year. Identical to the methodology used in Railroad Cost of capital – 1989, 6 I.C.C.2d 836 (1990) and prior proceedings, the publication *Analytical Record of Yields and Yield Spreads* prepared by the Bond Market Research Department of Salomon Brothers, Inc.

[5] A basis point equals 1/100th of a percentage point.

was used as a proxy for ETCs of the same rating where there were no new ETC issues of a particular rating. AAR determined that the yield for ETCs was 114 basis points higher than the yield for government bonds.[6] Using the yield spreads, AAR calculated the weighted average cost of ETCs to be 5.38%[7] and their market value to be $1.139 billion for 2005.[8]

We have analyzed the ETC cost and market value evidence supplied by AAR and find that AAR failed to include non-modeled ETCs. We have included the non-modeled ETCs in Miscellaneous Debt, as was done in past years. A summary of our ETC computations is shown in **Table 3** in the Appendix.

Cost of Conditional Sales Agreements (CSAs)

CSAs represent a small fraction (less than 1%) of total railroad debt, and only three CSAs issued by CSX were outstanding in 2005. The cost of CSAs, however, can be estimated. AAR used the yield spread between CSAs and ETCs for 1997 (the last year when a new CSA was issued) of 32 basis points to develop the year 2005 yield spread between CSAs and government bonds. This results in 146 basis points being added to government bond yields to develop the cost of CSAs.[9] Using this yield spread, AAR determined the weighted average cost of CSAs for 2005 to be 5.67%. AAR determined the market value for CSAs to be $142.0 million. We have examined the cost and market value of the CSAs using AAR's data, and have determined that AAR correctly included all CSAs in its computations.[10] **Table 4** in the Appendix shows the market value of conditional sales agreements.

[6] This figure is the same as the spread used in 2004.

[7] This is substantially higher than the 2004 figure of 5.01%.

[8] AAR has approximated the market values of ETCs using the same procedures used in previous cost-of-capital determinations.

[9] This yield spread equals the yield spread for ETCs versus government bonds of 114 basis points plus the yield spread between ETCs and CSAs of 32 basis points. These are the same numbers as used in the 2004 determination.

[10] AAR approximated the market values of CSAs using the same procedures used in previous cost-of-capital determinations. AAR included three CSAs issued by CSX.

Miscellaneous Debt and Capitalized Leases

As in previous cost-of-capital determinations, AAR excluded the costs of capitalized leases and miscellaneous debt in its computation of the overall current cost of debt because these costs are not directly observable in the open market. Also in keeping with past practice, AAR included the book value of leases and commercial paper in the overall market value of debt, which is used to determine the railroads' capital structure mix. AAR noted that the cost of capitalized leases is generally higher than that of other debt, but it did not make any upward correction for the cost of those leases. AAR determined that the market value for the capitalized leases and miscellaneous debt was $2.744 billion for 2005.[11] We have examined AAR's work papers and other evidence and have determined that, as explained above, AAR failed to include the market value of non-modeled ETCs (average book value) in other debt as was done in past years. **Table 5** in the Appendix shows our recalculations for capitalized leases and miscellaneous debt, which also include the market value of non-modeled ETCs of $335.3 million.

Total Market Value of Debt

AAR determined that the total market value for all debt during 2005 was $27.487 billion. **Table 6** in the Appendix shows a breakdown of the market value of debt.

Flotation Costs of Debt

As in past cost-of-capital decisions, AAR's calculation of the current cost of debt included a flotation cost factor consisting of costs associated with the issuance of new debt such as underwriters' fees, advertising costs, and legal fees. AAR determined that flotation costs for debt equaled 0.159% (rounded to 0.16%). We have reviewed AAR's calculations concerning flotation costs and find that the cost factors developed for the various components of debt are reasonable.[12] **Table 7** in the Appendix shows these calculations.

[11] This consists of $2.13 billion of capitalized leases and $0.613 billion of miscellaneous debt. However some debt instruments listed as ETCs are not modeled ETCs and should therefore be listed in miscellaneous debt. ETCs can fail to be modeled for two reasons: (1) the instrument labeled by a railroad as an ETC does not have all the characteristics typical of an ETC; or (2) the ETC has a floating rate (instead of fixed), making its rate for a particular future year uncertain.

[12] AAR's flotation cost factors are based on data developed by Salomon Brothers for ETCs and studies by the Securities and Exchange Commission concerning flotation costs for issuances of new bonds. The estimated flotation cost for CSAs is the same as that used in prior years.

Overall Current Cost of Debt

AAR concluded that the railroads' current cost of debt for 2005 was 5.36%.[13] Our calculations are shown in **Table 8** in the Appendix.

COMMON EQUITY CAPITAL

In contrast to the uncontested cost-of-debt calculations, there is a serious dispute over the appropriate cost-of-equity calculation for 2005. On opening, following Board practice, AAR submitted evidence using a DCF method. WCTL challenged the inputs used by AAR as flawed and recommended replacing the DCF methodology with a CAPM method.[14] WCTL argues that the estimate of the cost of equity is overstated for two reasons: (1) the growth rate was developed by stock analysts whose companies have a vested interest in selling stock; and (2) there is a mismatch between the 5-year growth rate used by AAR and the perpetual growth rate needed for the DCF model.[15] Thus, WCTL proposed that the Board discard the DCF model entirely and adopt a different technique (CAPM). On reply, AAR argues that the DCF model is the established agency method for determining the cost of equity, that the CAPM method has been repeatedly rejected by the agency, that investor forecasts of industry growth rates have always fluctuated, and that this is not the proper forum in which to challenge the DCF methodology.

At this time there is not enough evidence that our longstanding DCF model must be replaced. There is no uniform procedure for measuring stockholders' expectations as to future returns of a particular company or group of companies relative to the firm's overall risk, earnings potential and inflationary environment. This is necessarily a somewhat subjective process, as investor expectations are not readily observable. Over the years the calculation of the cost of common equity has produced thousands of articles and treatises by members of the financial, economic, and regulatory communities. There has not been a consensus as to how best to compute the cost of common equity and, in fact, there are many different ways in which it is

---

[13] This is slightly higher than the 2004 cost of debt (5.25%). As explained above, our measurement of the railroads' cost of debt entails the calculation of a weighted average of the current yields of the various debt instruments issued by the four railroads in our sample.

[14] The CAPM attempts to determine the return an investor would receive on a risk-free investment. After determining the risk-free return, an estimate of the risk premium associated with a particular investment is developed. Once the risk premium is quantified, its value is added to the risk-free investment rate to obtain an estimate of the cost of equity. See Railroad Cost of Capital – 1982, 367 I.C.C. 662, 669 (1983).

[15] WCTL Reply, V.S. Crowley at 6.

computed by both investors and regulators. After considerable public discourse, this agency settled upon the DCF model to derive the cost-of-equity component, a widely used method for determining the cost of equity, and that is the method used by the Board and its predecessor the Interstate Commerce Commission (ICC) (hereinafter the Board and ICC are collectively referred to as the agency) for over 20 years.

There is a norm of regularity in government conduct that presumes an agency's duties are best carried out by adhering to the settled rule. This presumption is particularly strong where, as here, a party seeks to replace an established methodology with one the agency has previously rejected. And as there are many different ways to estimate the cost of equity, the Board must take care not to swing back-and-forth between parties' preferred methodologies based on the results of the different approaches. Thus, our default presumption is that we should use the DCF model unless a party provides compelling evidence that it is flawed.

Here, WCTL's main concerns with the DCF model relate not to the model itself, but to one input that it now suggests is too subjective. But the CAPM method has its own shortcomings. As previously noted, "CAPM requires the use of many assumptions … [and each] can have a significant effect on the result obtained and each necessitates judgments on how best to define and measure it." Railroad Cost of Capital – 1981, 365 I.C.C. 734, 741 (1982). Indeed, the position of WCTL is a reversal of the prior position of the shipper community that the "CAPM technique was conceptually and technically flawed." Railroad Cost of Capital – 1982, 367 I.C.C. 662, 670 (1983). Since Railroad Cost of Capital - 1987, 4 I.C.C.2d 621 (1988), the agency has used consensus 5-year earnings per-share growth rate data published by Institutional Brokers Estimate System (IBES) to develop the growth rate estimates. IBES data reflect growth rate estimates from essentially all major brokerage firms. We will not set this forecast aside simply because it is developed by stock analysts, when the basic inquiry is the level of return on equity demanded by the investment community. And although the agency has been using this IBES data since 1988, WCTL has offered no empirical evidence (as opposed to theoretical concerns)[16] that the approach followed by the agency for the past 16 years has produced growth rate predictions that have proven to be systematically below the actual earnings growth.

---

[16] WCTL cited financial texts for the proposition that an industry's sustainable growth rate cannot significantly exceed the growth rate for the economy, and for cautioning against applying the DCF model to firms with high current rates of growth. WCTL Reply, V.S. Crowley at 7-8 (citing Pratt, Cost of Capital: Estimations and Applications, at 113 (2nd ed. 2002); Brealey, Myers, Marcus, Principles of Corporate Finance, at 69 (8th ed. 2006)). We note, however, that the growth rate forecasts used by this agency for over 25 years have fluctuated, ranging from a low of 8.8% in 1989 to a high of 14.3% in 1982.

WCTL has identified a potential concern with an input to the DCF model that should be explored in more depth. However, that does not mean that we should discard the DCF method and switch to the CAPM model based on the limited record here. Before considering whether to make such a significant change, we will seek broader public input from other interested shippers, as well as from transportation experts, Wall Street analysts, financial experts and academics on the relative merits of this longstanding approach. And we will seek comments not only on the DCF and CAPM models, but on any other available recognized methods for determining the cost of capital.

Accordingly, we will issue an advance notice of proposed rulemaking in STB Ex Parte No. 664, Methodology to be Employed in Determining the Railroad Industry Cost of Capital, to explore the most suitable methodology to calculate the cost of capital. That proceeding will provide all interested parties an opportunity to comment on the DCF model, the proper source for the inputs to that model, and whether the Board should adopt an alternative to that method, such as the CAPM model, for future cost-of-capital determinations.

In the interim, however, we will continue to use the DCF model in this proceeding to estimate the cost of equity. Our component DCF analysis is set forth below.

Market Value of Common Equity

AAR calculated the 2005 market value of common equity by multiplying the number of shares outstanding by the daily closing price for each trading day during the year for each of the sample railroad holding companies. AAR determined that the average market value for the year 2005 was $62.899 billion. We have reviewed AAR's calculations and have determined that this number is correct. **Table 9** in the Appendix shows the calculations of the average market value of common equity and relative weights for each railroad. WCTL agreed with the market value of common equity calculated by AAR.

Discounted Cash Flow Method

The DCF method of determining the cost of common equity is used by the majority of state regulatory agencies and has been used by the agency for many years. Under the DCF method, the cost of common equity is the discount rate that makes the present value of expected returns from holding a stock (dividends and price appreciation) equal to the current market value of that stock. The DCF method considers two variables—dividend yield and expected growth in earnings per share.[17]

---

[17] In Railroad Cost of Capital - 1982, 367 I.C.C. 662 (1983), the ICC developed the following DCF formula:

K = $[D_{(O)} \times (1 + g/2)/P_{(O)}] + g$, where: K = cost of common equity

(Footnote continued on next page)

Dividend Yield

AAR computed the 2005 average dividend yield for the composite group of railroads using the same method that it employed in past cost-of-capital determinations, i.e., weighting each company's monthly dividend yield on the basis of its prorated share of the total market value for the composite for each day during that month based on daily closing prices. AAR developed a composite dividend yield of 1.42% for 2005. This figure is slightly lower than the 2004 dividend yield (1.67%).[18] Our calculations of the dividend yield are shown in **Table 10** in the Appendix.

Growth Rate

AAR used the 5-year earnings per-share growth rate forecasts published monthly by IBES throughout 2005. AAR developed growth rates for each of the railroad holding companies that make up the composite by averaging the IBES forecasts for that company. It then weighted each company's growth rate according to its prorated share of the market value of the total railroad composite to arrive at a single projected growth rate. AAR concluded that this composite growth rate was 13.67%, based on a truncated average of the forecasts.[19]

Our review of the growth rate evidence submitted by AAR discloses no inaccuracies that would cause a change in the estimated growth rate developed by AAR. However, our

---

$D_{(O)}$ = annual dividend

$P_{(O)}$ = current stock price

g = expected growth rate

This formula assumes that, at the start of the year, an investor would require a return on equity (K) equal to $[D_{(O)}/P_{(O)}] + g$, where $D_{(O)}/P_{(O)}$ represents the average dividend yield expected for the year and g represents an estimate of the expected growth rate. At the end of the year, the investor would be concerned with projected returns for the following year and would require a K equal to $[D_{(O)} \times (1+g)/P_{(O)}] + g$, which would allow for dividend growth for the following year. The average of these two formulas produces this DCF formula.

[18] The difference in dividend yield is attributable to the fact that the average market value of railroad common stock for the four study frame companies increased by almost $16 billion between 2004 and 2005, while the dollar amounts of dividends per share remained the same.

[19] IBES provides a simple average, the highest forecast, and the lowest forecast for each railroad. AAR excluded the highest and lowest forecasts to arrive at the truncated average. This is the same procedure that has been followed in previous cost-of-capital determinations.

calculations produce a slightly lower figure of 13.66%. Our growth rate calculations are shown in **Table 11** (truncated) and **Table 12** (nontruncated) of the Appendix.

Flotation Costs

As with the issuance of new debt instruments, flotation costs are also incurred with the issuance of new equity securities. In Adequacy of Railroad Revenue (1979 Determination), 362 I.C.C. 344 (1979), the ICC concluded that flotation costs for equity capital should not be considered unless new equity had, in fact, been issued. This conclusion has been reaffirmed in subsequent cost-of-capital decisions. Because no railroad issued any new common equity capital during 2005, no flotation cost factor was included in the DCF formula.

Cost of Common Equity Capital

The AAR determined the cost of common equity for 2005 to be 15.19%, using a truncated average IBES growth rate (g) forecast of 13.67%, a dividend yield ($D_{(O)}/P_{(O)}$) of 1.42%, and the Board's DCF formula. AAR's figure is 2.03 percentage points higher than the cost of common equity for 2004 (13.16%).

We evaluated the reasonableness of those results using corroborative evidence submitted by AAR, and revising the method to estimate the growth rate of the industry. Our calculations produced a lower cost of common equity. The cost of common equity using the Board's formula and the DCF method is 15.18%. We conclude that this estimate of the effective industry COE (15.18%) is consistent with the evidence of record. **Table 13** in the Appendix shows our calculation of the cost of common equity.

PREFERRED EQUITY

Preferred equity has some of the characteristics of debt and some of the characteristics of equity. Essentially, preferred issues are like common stocks in that they have no maturity dates and represent ownership in the company (usually with no voting rights attached). They are like debt in that they usually have fixed dividend payments (akin to interest payments).

There were no preferred stock issues outstanding at the end of 2005.[20]

[20] Two railroad holding companies, NSC and UPC, redeemed all of their preferred stock and there is no longer any outstanding.

CAPITAL STRUCTURE MIX

Our computations of market values and the capital structure mix for 2005 are shown in **Table 14** in the Appendix. We have determined that the market value of bonds and common equity for 2005 was $90.39 billion. The percentage share of common equity increased significantly from 61.5% in 2004 to 69.6% in 2005. The percentage share of debt decreased from 38.5% in 2004 to 30.4% in 2005.

COMPOSITE COST OF CAPITAL

Based on the evidence furnished in the record, and our adjustments to that evidence discussed above, we conclude that the 2005 composite after-tax cost of capital for the railroad industry, as set forth in **Table 15** in the Appendix, was 12.2%. The procedure used to develop the composite cost of capital is consistent with the Statement of Principle established by the Railroad Accounting Principles Board: "Cost of capital shall be a weighted average computed using proportions of debt and equity as determined by their market values and current market rates."[21] The 2005 cost of capital was 2.1 percentage points higher than the 2004 cost of capital (10.1%).

CONCLUSIONS

We find that for 2005:

1. The current cost of railroad long-term debt was 5.36%.

2. The cost of common equity was 15.18%.

3. The capital structure mix of the railroads was 30.41% long-term debt and 69.59% common equity.

4. The composite railroad industry cost of capital was 12.2%.

Environmental and Energy Considerations

We conclude that this action will not significantly affect either the quality of the human environment or the conservation of energy resources.

Regulatory Flexibility Analysis

Pursuant to 5 U.S.C. 605(b), we conclude that our action in this proceeding will not have a significant economic impact on a substantial number of small entities. The purpose and effect of

[21] Railroad Accounting Principles Board *Final Report*, Vol. 1 (1987).

the action are merely to compute the annual railroad industry cost of capital. No new reporting or other regulatory requirements are imposed, directly or indirectly, on small entities.

It is ordered:

1. This decision is effective on September 20, 2006.

2. This proceeding is discontinued.

By the Board, Chairman Nottingham, Vice Chairman Mulvey, and Commissioner Buttrey.

Vernon A. Williams
Secretary

APPENDIX

Table 1
2005 Traded & Non-traded Bonds / Market Value By Company

Railroad	Traded vs. Untraded	Number	Market Value ($ in 000)	% Market Value to All Bonds
BNSF	Traded	25	$4,969,320	90.94%
	Non-traded [1]	8	495,195	9.06%
	Total	33	5,464,515	
CSX	Traded	11	2,402,213	47.45%
	Non-traded [2]	25	2,660,086	52.55%
	Total	36	5,062,299	
NSC	Traded [3]	12	5,413,798	79.76%
	Non-traded[4]	9	1,373,694	20.24%
	Total	21	6,787,492	
UPC	Traded	15	4,786,225	82.35%
	Non-traded	17	1,025,957	17.65%
	Total	32	5,812,182	
Composite	Traded	63	$17,571,556	75.98%
	Non-traded	59	5,554,932	24.02%
	Total	122	23,126,488	

[1] Includes 1 bond issued during 2005, prorated based on date of issue.

[2] Includes 3 bonds issued during 2005, prorated based on date of issue.

[3] Includes 1 bond issued during 2005, prorated based on date of issue.

[4] Includes 2 bonds issued during 2005, prorated based on date of issue.

Table 2
Calculation of 2005 Value and Cost of Bonds, Notes, & Debentures

Railroad	Number of Traded Issues	Market Value Traded Issues ($000)	Current Cost	Weighted Cost
BNSF	25	$4,969,320	5.27%	1.49%
CSX	11	2,402,213	4.99%	0.68%
NSC	12	5,413,798	5.39%	1.66%
UPC	15	4,786,225	4.99%	1.36%
Composite	**63**	**$17,571,556**		**5.19%**

Table 3
Calculation of 2005 Value and Cost of Equipment Trust Certificates

Railroad	No. of Issues	Market Value ($000)	Yield %	Weighted $ Yield ($000)
BNSF	11	$368,458	5.40%	$19,878
CSX	12	366,722	5.35%	19,601
NSC	6	195,483	5.36%	10,484
UPC	5	208,598	5.41%	11,285
Composite	**34**	**$1,139,261**	**5.38%**	**$61,248**

Table 4
Calculation of 2005 Value and Cost of Conditional Sales Agreements

Railroad	Number of Issues	Market Value ($000)	Current Cost	Weighted Cost)
CSX	3	$142,197	5.67%	5.67%
Composite	**3**	**$142,197**		**5.67%**

Table 5
Calculation of 2005 Value of Capitalized Leases & Miscellaneous Debt

Railroad	Capitalized Leases ($000)	Miscellaneous Debt[2] ($000)	Total Other Debt ($000)
BNSF	$600,923	$594,086	$1,195,009
CSX	126,521	180,216	306,737
NSC	86,118	240,127	326,245
UPC [1]	1,317,308	(66,000)	1,251,308
Composite	**$2,130,870**	**$948,429**	**$3,079,299**

[1] UPC has negative miscellaneous debt as a result of unamortized debt premium.
[2] Miscellaneous Debt also includes non-modeled ETCs, which do not have all the characteristics typical of an ETC.

Table 6
Calculation of 2005 Market Value of Debt

Type of Debt	Market Value of Debt ($000)	Percentage of Total Market Value (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	$23,126,488	94.75%
ETCs	1,139,261	4.67%
CSAs	142,196	0.58%
Subtotal	$24,407,945	100.00%
Capitalized Leases/Miscellaneous Debt	3,079,299	NA
Total Market Value of Debt	**$27,487,244**	**NA**

Table 7
Calculation of 2005 Flotation Cost For Debt

Type of Debt	Market Weight (Excludes Miscellaneous Debt)	Flotation Cost	Weighted Average Flotation Cost
Bonds, Notes, & Debentures	94.75%	0.16%	0.152%
ETCs	4.67%	0.13%	0.006%
CSAs	0.58%	0.13%	0.001%
Total	**100.00%**		**0.159%**

Table 8
Calculation of 2005 Cost of Debt

Type of Debt	Percentage of Total Market Value (Excludes Miscellaneous Debt)	Debt Cost	Weighted Debt Cost (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	94.75%	5.19%	4.92%
ETCs	4.67%	5.38%	0.25%
CSAs	0.58%	5.67%	0.03%
Subtotal			5.20%
Flotation Cost			0.16%
Weighted Average Cost of Debt			**5.36%**

Table 9
Calculation of 2005 Market Value and Weights of Common Equity

Railroad	Average Market Value ($000)	Average Market Weight
BNSF	$20,253,925.4	32.20%
CSX	9,402,561.4	14.95%
NSC	15,449,669.2	24.56%
UPC	17,792,912.7	28.29%
Composite	**$62,899,068.7**	**100.00%**

Table 10
Calculation of 2005 Dividend Yields for Common Equity

Railroad	Average Weight In Composite	Dividend Yield	Weighted Dividend Yield
BNSF	32.20%	1.38%	0.44%
CSX	14.95%	.99%	0.15%
NSC	24.56%	1.32%	0.32%
UPC	28.29%	1.79%	0.51%
Composite	**100.00%**		**1.42%**

Table 11
Calculation of 2005 Truncated Growth Rates

Railroad	Average Weight In Composite	Truncated Average Growth Rate	Contribution To Truncated Average Growth Rate
BNSF	32.20%	12.74%	4.10%
CSX	14.95%	15.52%	2.32%
NSC	24.56%	14.92%	3.66%
UPC	28.29%	12.67%	3.58%
Composite	**100.00%**		**13.66%**

Table 12
Calculation of 2005 Nontruncated Growth Rates

Railroad	Average Weight In Composite	Nontruncated Average Growth Rate	Contribution To Nontruncated Average
BNSF	32.20%	13.33%	4.29%
CSX	14.95%	15.46%	2.31%
NSC	24.56%	15.36%	3.77%
UPC	28.29%	12.96%	3.67%
Composite	**100.00%**		**14.04%**

Table 13
Computation of the 2005 Cost of Common Equity

Dividend Yield	1.42%	
Dividend Yield Times 1+½ Growth Rate	1.42% x (1+.0683)	1.52%
Growth Rate		13.66%
Cost of Equity		**15.18%**

Table 14
Computation of 2005 Capital Structure Mix

Railroad	Type of Capital	Market Value	Weight
BNSF	Debt Equity	$7,027,982 20,253,925	25.8% 74.2%
CSX	Debt Equity	5,877,954 9,402,561	38.5% 61.5%
NSC	Debt Equity	7,309,220 15,449,669	32.1% 67.9%
UPC	Debt Equity	7,272,088 17,792,913	29.0% 71.0%
Composite Weight	Debt Equity **Total**	27,487,244 62,899,068 **$90,386,312**	30.41% 69.59% **100.0%**

Table 15
2005 Cost of Capital Computation

Railroad	Type of Capital	Cost (Rounded)	Weight	Weighted Average
BNSF	Debt	5.44%	25.80%	1.40%
	Equity	14.21%	74.20%	10.54%
	Cost of Capital		100.00%	11.94%
CSX	Debt	5.19%	38.50%	2.00%
	Equity	16.59%	61.50%	10.20%
	Cost of Capital		100.00%	12.20%
NSC	Debt	5.55%	32.10%	1.78%
	Equity	16.34%	67.90%	11.09%
	Cost of Capital		100.00%	12.87%
UPC	Debt	5.16%	29.00%	1.50%
	Equity	14.57%	71.00%	10.34%
	Cost of Capital		100.00%	11.84%
Composite Weight	Debt	5.36%	30.41%	1.63%
	Equity	15.18%	69.59%	10.56%
	Cost of Capital		100.00%	12.19%
	Rounded to			**12.2%**